

## Supplemental Digital Content 4: Newcastle Ottawa Scale (adapted for this systematic review)

### Selection

- 1) Representativeness of the exposed cohort
  - a) truly representative of the average ICU patient (\*point given)
  - b) somewhat representative of the average ICU patient (\*point given)
  - c) selected group
  - d) no description of the derivation of the cohort
  
- 2) Selection of the non- exposed cohort
  - a) drawn from the same community as the exposed cohort (\*point given)
  - b) drawn from a different source
  - c) no description of the derivation of the non-exposed cohort
  
- 3) Ascertainment of exposure (i.e. of being vitamin D deficient)
  - a) secure record - reliable assay for vitamin D status (\*point given)
  - b) Vitamin D status determined well before or after ICU admission
  - c) no report of accuracy of vitamin D assay
  - d) no description
  
- 4) Demonstration that outcome(s) of interest (e.g. mortality , LOS) was not present at start of study
  - a) yes (\*point given)
  - b) no (for example if determined vitamin D level at time of discharge)

### Comparability

- 1) Comparability of cohorts on the basis of the design or analysis
  - a) study controls for Age (\*point given)
  - b) study controls for any additional factor \* (point given)
    - will be study dependent, but could consider things like e.g. illness severity at admission, other measure of nutritional status)

### Outcome

- 1) Assessment of outcome
  - a) independent assessment (\*point given)
  - b) record linkage (\*point given)
  - c) self-report
  - d) no description
  
- 2) Was follow-up long enough for outcomes to occur
  - a) yes – in hospital mortality ( \*point given)
  - b) no (indicate no if mortality was only PICU mortality or unclear)
  
- 3) Adequacy of follow up of cohorts
  - a) complete follow up - all subjects accounted for(\*point given)
  - b) subjects lost to follow up unlikely to introduce bias < 20 % (\*point given)
  - c) follow up rate < 80 % and no description of those lost
  - d) no statement